MINUTES
of the
THIRD MEETING
of the
WATER AND NATURAL RESOURCES COMMITTEE

August 10-11, 2004
Workforce Training Center, TVI
Albuquerque

The third meeting of the Water and Natural Resources Committee was called to order at 10:10 a.m. on Tuesday, August 10, 2004, at the Workforce Training Center at Albuquerque Technical-Vocational Institute.

PRESENT
Rep. Joe M Stell, Chair
Sen. Carlos R. Cisneros, Vice Chair
Sen. Sue Wilson Beffort
Sen. Joseph J. Carraro
Sen. Dede Feldman
Rep. Larry A. Larranaga
Rep. James Roger Madalena
Rep. Brian K. Moore (8/11)
Rep. Andy Nunez
Sen. Mary Kay Papen
Sen. H. Diane Snyder
Rep. Don Tripp (8/10)
Rep. Robert White

ABSENT
Rep. Joseph Cervantes
Sen. Mary Jane M. Garcia
Rep. Dona G. Irwin
Sen. Shannon Robinson
Rep. Mimi Stewart

Advisory Members
Rep. Anna M. Crook
Sen. Gay G. Kernan (8/10)
Rep. Ben Lujan (8/11)
Rep. Danice Picraux
Sen. Nancy Rodriguez (8/11)
Rep. Henry Kiki Saavedra
Rep. Ray Begaye
Sen. Timothy Z. Jennings
Sen. Clinton D. Harden, Jr.
Rep. Rhonda S. King
Sen. Steve Komadina
Sen. Leonard Lee Rawson
Sen. Leonard Tsosie
Rep. Peter F. Wirth
Rep. Eric A. Youngberg

(Attendance dates are noted for members not present for the entire meeting.)

Guest Legislator
Rep. Earlene Roberts (8/10)

Staff
Jon Boller
Gordon Meeks

Guests
The guest list is in the original meeting file.

Tuesday, August 10

UNDECLARED GROUND WATER BASINS

Paul Saavedra, general manager of water rights for the Office of the State Engineer, described briefly the history of water administration in New Mexico. He said that New Mexico water law is based on the doctrine of prior appropriation, which provides that the person first using the water has a senior or better right than subsequent users, so long as beneficial use continues. Surface water laws as they now exist were established in 1907, after which any new appropriations of surface water required a permit from the state engineer. Surface water appropriations that pre-date 1907 may be validated upon the filing of a declaration of use with the state engineer. Ground water use, however, was not regulated until many years later. In 1931, the legislature extended the doctrine of prior appropriation to ground water, and authorized the state engineer to require permits for new ground water appropriations in areas where the state engineer deemed it necessary to limit the unregulated, and unlimited, use of ground water. These areas, known as declared basins, now number 33 and cover approximately 92 percent of the state. When asked why there are still undeclared basins in the state, Mr. Saavedra replied that most of these areas were far from the current administrative office, that declaring a basin was often controversial and that the state engineer did not yet have the resources to adequately administer newly declared basins. He noted, however, that the state engineer was considering declaring the Clayton Basin and the Causey-Lingo Basin, and extending the existing Canadian River Basin. Mr. Saavedra said he would bring a cost analysis to the committee.

The committee posed questions and discussed:

- the cost of declaration of basins;
- location of wells in a basin and the inventory required;
- the process for water rights determinations after a basin is declared;
- whether existing wells in a declared basin are grandfathered and the potential need to file a declaration of water rights;
- the reasons the state engineer may use for declaration of a basin;
- the status of windmill wells in a declared basin;
- domestic wells in a declared basin;
- any advantage to having a well prior to a declaration date versus after the declaration date;
- identification of the area of a ground water basin;
- the need for simplification and the confusion between declared and undeclared basin regulatory status;
- if water can be sold to Texas;

- the status of ground water under land grants;
- that the first step to water rights adjudication should be declaration of the ground water basin;
- the nature of private property rights and the state's authority to prevent a person from selling water rights to Texas;
- the state's ownership of water in undeclared areas;
- the right of the state to condemn water rights and confusion about the state not having power to "do anything";
- administrative hearings and protests over closed basin declarations;
- qualifications for administrative law judges and hearing officers;
- schedule for declaring ground water basins;
- whether legislative action is needed;
- potential costs of not declaring basins;
- tribal rights in declared basins; and
- a request for explicit action from the Office of the State Engineer in declaring the remaining basins closed, strategic plan to declare the remaining basins and cost analysis and budgeting.

The chair recognized Willard Heck from the audience, who commented that many citizens are concerned that water is going to be depleted and encouraged the state engineer to act quickly. He said there are no standards for well drilling or the quality of a well.

Robert Findling of the Nature Conservancy of New Mexico thanked the committee's for its understanding of the issue and the need to quell the rate of well drilling.

An unidentified woman commented on irrigation circles and said she was heartened by the committee's interest.

Bill Bickley and Betty said they have farm land in the conservation reserve program and want to know how they can conserve water and still retain the right to use it in the future.

INNOVATIVE WATER TECHNOLOGIES

Lynda Taylor, ZERI New Mexico, said that the state needs to find ways to better use available resources. She said the state must use raw materials in value-added ways that provide for sustaining communities in New Mexico. She noted that the state has many resources, such as universities, national laboratories and educated people, but asked why New Mexico still scores so low in social and community measures of success. The governor requested ZERI to conduct a two-day workshop for six agencies, representatives from the oil and gas industry, the dairies and other interests to explore cooperation and coordination for social and environmental change for New Mexico. She passed around to the committee a packet of information and charcoal produced from an enterprise involved in processing wood material from small diameter thinnings from the national forests. She thanked the governor for the calling the workshop, and said that ZERI is looking for unique and sustainable projects with state agencies to eliminate waste and protect the environment. She said that forestry waste, in particular, needs new attention because

70 to 80 percent is ending up in landfills. She said there is a need for looking at contaminated soils from produced water, better water conservation and new, innovative, out-of-the-box solutions to dairy wastes.

She said sponsors for some of this work are the Healy Foundation (Trudy Healy) and the Living Foundation. A current priority of ZERI is forest value-added restoration through the manufacture of charcoal, a natural, nontoxic wood charcoal from harvesting small diameter wood material.

She introduced Ivenka Malenkovic, a Ph.D. scientist in mycology from Serbia who said that salt cedar and Russian olive can be processed with fungi to make an animal feed. The Community of Mora's Rough and Ready Lumber Company, the state forester, the U.S. Forest Service and New Mexico State University are cooperating on a project to test branches innoculated with fungi and placed on the forest floor to prevent erosion. They are also exploring the use of edible fungi on slash for marketing and the recycling of slash to create soil. In the oil and gas industry, algae can be added to produced water to treat it without the conventional expense of cleaning the water. The algae can then be used for diesel fuel or animal feed. This has been researched by the National Renewable Energy Laboratory in Boulder, Colorado, during a project in Roswell.

ZERI is also exploring water conservation through the use of "harvested" condensation for irrigating crops. This technique involves passing water from a river through a pipe under the crops at the root level where the cooler soil picks up condensation on the outside of the pipe, which is collected and used to water the crop, and the diverted water is returned to the river without using it.

Ms. Malenkovic told the committee that dairy wastes can be treated in a waste digester after which the nutrient water can be fed into a fish pond where the fish eat the nutrients. The Pueblo of Picuris is exploring this concept in collaboration with the Border Environment Cooperation Commission.

She concluded by saying there is no such thing as waste in nature; creative ideas must be used to build sustainable communities through waste recycling.

The committee asked questions about and discussed:

- ZERI's relationship with the Pueblo of Picuris and other tribes;
- the quality of the charcoal derived from forest material and that it will have no chemical additives;
- the cost-effectiveness of the charcoal project and its schedule;
- work with New Mexico State University to set up a spore bank;
- processing of forest waste after fire and thinning operations;
- the potential use of salt cedar waste;
- the role of the small business development centers in the project;
- the market for charcoal to the Whole Foods grocery chain;

- the potential for use of activated charcoal for water treatment systems;
- the national applicability of the ZERI project;
- funding sources for forest thinning and charcoal processing;
- the capital outlay appropriation of $350,000 distributed to different agencies and the need for a general appropriation for operating expenses; and
- the potential for inoculation of state forest seedlings with myccorizal fungi.

The committee approved without opposition the minutes of the previous meeting in Clovis on July 27 and 28, 2004.

MIDDLE RIO GRANDE CONSERVANCY DISTRICT INNOVATIONS

Sterling Grogan, chief biologist for the Middle Rio Grande Conservancy District (MRGCD), reviewed innovations in water management and bosque management in the MRGCD's area. He told the committee that the district includes 150 miles of the river between Cochiti and the Bosque del Apache. There are 11,000 water users on 70,000 acres in the district. He said that water consumption in the area is split more or less evenly into one-third each to agriculture, the natural bosque and reservoir evaporation. The law creating the district was enacted in 1933 for drainage, flood control and rehabilitation of the 77 acequias in the middle stretch of the Rio Grande at the time. Total diversions amounted to 320,000 acre-feet in 2003. This is a 47 percent reduction in diversions, and losses and returns have been reduced while crop usage has remained the same, about 130,000 acre-feet. He explained that conservation is important but that a trade-off is the reduced amount of return flow to the river that may have implications for the endangered species recovery plan. He said that all diversions are metered and 85 percent of the return flow is metered. The remaining part of the return flow that is not metered is nearly impossible to gauge because the level of the river has risen and the unmetered return flow is under the river level. The MRGCD has installed automated water control gates. It has also constructed an artificial silvery minnow habitat.

He told the committee of the dilemmas created by population growth and conversion of farmland to subdivisions. For example, he said that Valencia County growth since 1991 is 45 percent. There is a need for innovation due to human growth. The bosque did not used to be a connected forest. Human intervention in the form of flood control leads to a continuous forest that is consequently subject to more wildfires. About 20,000 acres of the bosque is owned by the MRGCD.

He showed photos of salt cedar reduction efforts using goats and mechanical removal. He said that goats are an effective means of salt cedar control, reducing the volume by 25 percent in one month. The MRGCD and the soil and water conservation districts will be asking for more funding to continue the use of goats. Neither goats nor Arsenal are a one-time effort, he said. This kind of eradication effort will have to continue indefinitely.

The committee asked questions and discussed:

- individual farmers' adjudication status in the MRGCD and the purpose of metering in the MRGCD;

- the benefits of improving the efficiency of the conveyance system over metering on farm deliveries;
- the problem of drip irrigation causing salt buildup and destroying the productivity of the crop land and that drip irrigation requires the water to be filtered;
- how many goats are required to clear a given area of salt cedar and if there are enough goats;
- the amount of land taken out of production within the MRGCD during the past few decades since MRGCD records show no change in acreage under crops since the 1970s;
- the process of developing proof of beneficial use;
- the improvement of watersheds as the single best option to improve water yield; and
- goats for meat and economic development.

SANTA FE DOMESTIC WELL ORDINANCE

Claudia Borchert, water resources project coordinator for the City of Santa Fe, told the committee that protecting ground water sustains the City of Santa Fe's water. The city is in an area of a limited body of water, where recharge is minimal. The population is currently using more water than is recharged. Thus, the city is faced with the challenge of making water policy that must provide for the equitable distribution of resources among its citizens. Private wells not only deplete the city's water supply, but can also be direct conduits to pollution of the drinking water relied on by the city utility customers as well as those on private wells. She said the city monitors ground water resources. The city's domestic well ordinance regulates the use of wells to require compliance with water conservation and attempts to regulate how and when, but not how much, water is used. The restrictions on drilling new domestic water wells are contained in City Code Number 25-1.1. The key component of the ordinance is that no new wells are allowed without a permit and a permit can be denied if the place of use is within 300 feet of a water distribution line, unless the cost is more for connecting to the utility than drilling a well. The ordinance tracks the state statute. The city has other water conservation efforts it is undertaking such as toilet retrofits, but the domestic well policy is an important component of the city's water policy. She provided the committee with a schematic flow chart for the permitting process and elucidated some of the concerns and questions that have arisen since enactment of the ordinance. They include:

1. balancing utility decisions with wise resource management decisions;
2. the occasional problem of easements being unobtainable across neighboring property when the place of use is nevertheless within 300 feet of a utility;
3. the state law not allowing for flexibility in permit decisions — it is not always as cut and dry as the law presumes;
4. that ideally, the level of current water service should prevent the demand for domestic well permits, but that level of service is not yet available;
5. the potential need for changes in subdivision laws and ordinances to prohibit them if utility service is unavailable; and
6. the inherent conflicts between making water decisions based on utility administration

versus a water conservation basis.

The committee asked questions and discussed:

- that the average depth of wells in Santa Fe is 250 to 300 feet;
- ongoing litigation over the city's domestic well ordinance;
- the difference between a city regulating for water resources protection and the city utility being able to make decisions based on utility economics;
- the status of the Santa Fe National Forest watershed restoration project; and
- the history of the New Mexico Municipal League's version of the bill.

The committee recessed at 4:10 p.m.

Wednesday, August 11

ALBUQUERQUE BERNALILLO COUNTY WATER AUTHORITY

Mark Sanchez, director, and Allen Armijo, chair, both of the Albuquerque Bernalillo County Water Authority (ABCWA), and John Stomp, manager of the water utility, told the committee that they want to figure out how to deal with water in the region and to work with other communities. They described the history of the creation of the authority pursuant to Senate Bill 87 passed in the 2003 session. The law requires an audit by the Public Regulation Commission prior to transferring assets, which occurred in December 2003. The governing structure provides for three county commissioners, three city council members and the mayor. A joint powers agreement and a memorandum of understanding between the county and the city has led to the smoothest transition possible for employees and customers. Mr. Stomp runs the day-to-day operations.

Part of the transition process was the repeal of the city's annexation requirement for service to be provided in an area, which had been the point of conflict between the city and county for decades. The authority has reduced $1 million from overhead operating expenses through reorganization. Rates have been reduced accordingly. Seven million dollars has been allocated for extending services into the north and south valleys to eliminate 7,000 septic tanks. They said gains have been made toward improving water delivery and treatment. On August 9, a groundbreaking took place for the purification plant, which was partially financed through $228 million from the New Mexico Finance Authority.

Kirtland Air Force Base is asking for an expansion of services for water and sewage. One thousand new housing units are planned at Kirtland that will need service.

The ABCWA has approved a peer review process by which it will continue to improve efficiencies. The speakers testified that they are working with outlying communities upon request. The East Mountain Community, for example, has approached the ABCWA as has the Mesa del Sol Subdivision and the Community of Corrales. They said the ABCWA has gone to Wall Street regarding credit rating and received a AA rating. The credit is as high as it was prior to reorganization, even though there had been concern that re-organization might lead to a lower

credit rating.

Mr. Stomp went through graphics explaining the rate of water withdrawals. The utility has pumped less out of the aquifer in 2004 than in 1987. He said there has been a 28 percent reduction since 1994. The ABCWA's goal is to reduce withdrawals by 40 percent. Water conservation efforts so far include replacement of old toilets with 51,000 low-flow toilets and the removal of three million square feet of lawn that has been replaced with xeriscape. He said a diversion permit has been approved by the Office of the State Engineer for the South Alameda site. A lawsuit has been filed, but the ABCWA is moving ahead with construction of 56 miles of pipes from that purification plant to its customers. Funding to retire the bonds is coming from rates charged to customers. Construction of distribution pipes will begin later this year.

The diversion dam is an adjustable dam with bladders and has fish passage and an Endangered Species Act permit from the federal government. All permitting is complete and the state permits are in hand.

The committee asked questions about and discussed:

- excessive watering of road medians;
- duration of the San Juan/Chama project (in perpetuity contract);
- the status of the appeal on the diversion permit by Socorro, John Carangelo, the assessment rate payers of the MRGCD, Rio Grande Restoration and the Sierra Club;
- the south valley sewer projects and budget for the "valley utilities project" ($7 million per year for four years) and the breakdown of north versus south valley components;
- how the valley project is the priority;
- that Mesa del Sol and Kirtland are paying the entire cost of their new hookups;
- the status of the request to the federal government for matching money from Senators Domenici and Bingaman and specific budget shares from the respective state and local jurisdictions;
- the status of the 10-year plan, which is expected to be complete in the next four years;
- the status of infrastructure improvements by project and location and the detailed schedule of their completion;
- distribution line routes that have been protested by residents on Campbell Road;
- an explanation for specific route decisions for pipeline construction (Campbell Road is the least expensive and most direct option);
- the total cost of $45 million;
- specific right of way (half of pipeline is on MRGCD right of way);
- a request for public hearings along the route to appease residents for the services they are receiving from the project;
- the assessment fee (both flat or scaled);
- geographic representation on the water authority;
- purview of the conservation plans;

- growth capacity for the future;
- why vegetation is dying in Albuquerque; and
- proposed revisions to the ABCWA legislation.

Anne Watkins, special assistant to the state engineer, was recognized and told the committee that in answer to a question yesterday, Texas could drill a well in New Mexico but would have to apply to the state engineer for a permit to transfer water out of the state; however, enforcement might be a problem.

BOSQUE MANAGEMENT

Marilyn O'Leary, Utton Center, UNM, described a workshop last May at which the Utton Center facilitated stakeholders in development of an outline of principles for bosque management. A priority is obtaining funding to create a common database. The Army Corps of Engineers will use the workshop product to guide its Rio Grande restoration program as will the MRGCD.

Cliff Crawford, professor emeritus in biology at UNM and a specialist on the bosque, said the river is an artifact of what was once a completely different ecosystem. The river is "stuck" now, unlike its previous condition in which it changed course frequently. Wildfire is a major threat now, largely because of the way the river flows and the amount of water that flows into it have been restricted. Evaporation is exacerbated by the restricted flow. However, it could be changed to reduce the constraints and restore the river, he told the committee. The various agencies that affect the river do not always cooperate because they have different purposes and paradigms that they operate under. He said that the goal should be making the river and bosque what it could be — not necessarily what it used to be — since the river is and will continue to be constrained to one channel. The river could be restored to a mosaic of trees, separated by open spaces, and the trees periodically thinned to prevent fires. Sterling Grogan and Mr. Crawford wrote a paper that the workshop focused on. The workshop involved 75 or 80 people. They are working now to formalize the objectives of the workshop. He summarized 10 suggested general approaches to bosque management.

Sterling Grogan, MRGCD, told the committee that there are 180 miles to restore. He said it will be a collaborative effort involving federal agencies, Indian governments, state and local jurisdictions and nongovernment organizations such as the MRGCD. The MRGCD is the local sponsor with the Army Corps of Engineers for the Albuquerque reach. He said there is no funding yet. MRGCD is committed to maintenance of the corps' efforts. Decision-making is ongoing. The speakers agreed that there is no cookbook that can specify exactly what must be done on every square inch of the bosque, and discussions have led to a questioning of many of the assumptions made in the past. The basic principles are a suggestion of how to begin.

The committee asked questions and discussed:

- the role of the Army Corps of Engineers;
- training of those that will do the ground work; and
- an education program that has so far reached 7,000 school children.

ECONOMICS OF WATER UTILITIES

Janie Chermak, professor of economics at UNM, told the committee that there have been rate increases around the west but none are specifically a result of supply. Summer surcharges are typical. Step rate systems make comparison difficult because they use different steps, i.e., 1,000, 5,000, 10,000 or 12,000 gallon thresholds. Tucson is the most aggressive city for making the biggest users pay the most, but its neighbor Phoenix has a flat rate. There does not seem to be any relation to usage. Fort Collins, Colorado, actually reduces rates for the highest users. Los Angeles makes adjustments for different economic strata, for seasons and for different uses. That city is so progressive, she said, that it even increases its rates according to the customer's ability to pay. Every city has a drought plan, but some are pretty weak. Per capita use is still high throughout the west: Albuquerque uses 197 gallons per day per person compared to Tucson's 140 and Denver's 190. She then clarified that Albuquerque's per capita consumption includes an average of 25 gallons per day per person lost through evaporation. The whole 197 gallons may not ever actually reach the customer. Ms. Chermak recommend that the state look at what kind of industry is recruited to New Mexico as it relates to water use.

The committee asked questions and commented on:

- the cost of water security;
- why Santa Fe was not included in the data;
- the $40.00 base rate of Albuquerque;
- the population carrying capacity for New Mexico and Albuquerque and the need to stop growth;
- business development's impact on water use;
- how the cost of living is generally less in New Mexico, which attracts newcomers; and
- the need for developing new sources of water rather than trying to control or stop growth.

The committee then went on a tour of the Rio Grande Bosque at Alameda Boulevard. It also made two more stops at the Anderson Farm and Candaleria Farm to see recent improvements in irrigation efficiency technology and get presentations on Albuquerque's integration of open space with resource management programs.

The committee adjourned at 2:30 p.m.